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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

FEELY, MICHAEL J

ART UNIT

PAPER NUMBER

1796

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/824,217	Applicant(s) STEPHENSON ET AL.	
	Examiner Michael J. Feely	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 July 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) See Continuation Sheet is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) See Continuation Sheet is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Continuation of Disposition of Claims:

Claims pending in the application are 106-110,112,114-116,119,122-131,135-139,145,150-154,160-168,170,175-179 and 181-190.

Continuation of Disposition of Claims:

Claims rejected are 106-110,112,114-116,119,122-131,135-139,145,150-154,160-168,170,175-179 and 181-190.

DETAILED ACTION

Pending Claims

Claims 106-110, 112, 114-116, 119, 122-131, 135-139, 145, 150-154, 160-168, 170, 175-179, and 181-190 are pending.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 20, 2009 has been entered.

Response to Amendment

2. The rejection of claims 121, 140, 142, 144, 169, 171-174, and 180 under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Rickards et al. (US Pat. No. 6,059,034) has been rendered moot by the cancellation of these claims.

3. The rejection of claims 106-110, 112, 114-116, 119, 122-131, 135, 136, 160, 170, and 175-179 under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Rickards et al. (US Pat. No. 6,059,034) has been overcome by amendment.

4. The rejection of claims 121, 140, 142, 144, 169, 171-174, and 180 on the grounds of nonstatutory obviousness-type double patenting as being unpatentable over claims 95-97 of U.S.

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Patent No. 6,059,034, in light of the specification, has been rendered moot by the cancellation of these claims.

5. The rejection of claims 106-110, 112, 114-116, 119, 122-131, 135, 136, 160, 170, and 175-179 on the grounds of nonstatutory obviousness-type double patenting as being unpatentable over claims 95-97 of U.S. Patent No. 6,059,034, in light of the specification, has been overcome by amendment.

6. The declaration under 37 CFR 1.132 filed July 20, 2009 is insufficient to overcome the rejection(s) based upon the teachings of Rickards et al. (US Pat. No. 6,059,034) as set forth in the last Office action because:

Comparative “specimen 2” does not represent the closest prior art. As set forth in the previous rejection(s), the embodiment set forth in Figure 30 (*and column 20, lines 30-56*) constitutes the closest prior art.

Response to Arguments

7. Applicant’s arguments, see page 11 of the response, filed July 20, 2009, with respect to *glazing materials* have been fully considered and are persuasive. The following rejections have been withdrawn:

- The rejection of claims 137-139, 145, and 150-154 under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Rickards et al. (US Pat. No. 6,059,034).

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- The rejection of claims 137-139, 145, and 150-154 on the grounds of nonstatutory obviousness-type double patenting as being unpatentable over claims 95-97 of U.S. Patent No. 6,059,034, in light of the specification.

Claim Rejections - 35 USC § 102/103

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 106-110, 112, 114-116, 119, 122, 130, 131, 135, 160, 170, and 186 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Gibb et al. (US Pat. No. 4,923,714).

Regarding claims 106-110, 112, 116, 119, and 122, Gibb et al. satisfy all of the material/chemical limitations of the instantly claimed *selectively configured porous particulate material comprising a porous particulate material treated with a liquid resin, plastic, cement, sealant, or binder* (Abstract), wherein

(i) *the porous particulate material has inherent or induced permeability* (Abstract; column 2, line 56 through column 3, line 5);

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(ii) is selected from the group consisting of porous ceramics, polyolefins, styrene-divinylbenzene copolymers, and polyalkylacrylate esters (Abstract; column 2, line 56 through column 3, line 5); and

(iv) the porous particulate material is not a cluster of particulates (Abstract; column 2, line 56 through column 3, line 5).

They fail to explicitly disclose all of the instantly claimed property limitations, including *(iii) the apparent specific gravity of the selectively configured porous particulate is less than the apparent specific gravity of the porous particulate*. However all chemical/material limitations have been satisfied. In light of this, it has been found that, “Products of identical chemical composition can not have mutually exclusive properties.” A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present – *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Furthermore, using *specific gravity* as an indicator, it appears that the instantly claimed *apparent specific gravity* would have been satisfied (column 7, line 46 through column 8, line 8).

Therefore, it appears that Gibb et al. would have inherently taught all of the instantly claimed properties.

Regarding claims 130, 131, 135, 114, 115, 160, 170, and 186, Gibb et al. satisfy all of the material/chemical limitations of the instantly claimed *selectively configured porous particulate material comprising a porous particulate material coated or penetrated with a liquid resin, plastic, cement, sealant, or binder* (Abstract), wherein

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(i) the porous particulate material has inherent or induced permeability (Abstract; column 2, line 56 through column 3, line 5);

(ii) is selected from the group consisting of porous ceramics, polyolefins, styrene-divinylbenzene copolymers, and polyalkylacrylate esters (Abstract; column 2, line 56 through column 3, line 5); *and*

(iv) the porous particulate material is not a cluster of particulates (Abstract; column 2, line 56 through column 3, line 5).

They fail to explicitly disclose all of the instantly claimed property limitations, including *(iii) the “strength” of the selectively configured porous particulate material is greater than the “strength” of the porous particulate*. However all chemical/material limitations have been satisfied. In light of this, it has been found that, “Products of identical chemical composition can not have mutually exclusive properties.” A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present – *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Furthermore, using *crush resistance* as an indicator, it appears that the instantly claimed *strength* would have been satisfied (column 7, line 46 through column 8, line 8).

Therefore, it appears that Gibb et al. would have inherently taught all of the instantly claimed properties.

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11. Claims 106-110, 112, 114-116, 119, 122, 130, 131, 135, 160, 170, and 186 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Gibb et al. (US Pat. No. 4,869,960).

Regarding claims 106-110, 112, 116, 119, and 122, Gibb et al. satisfy all of the material/chemical limitations of the instantly claimed *selectively configured porous particulate material comprising a porous particulate material treated with a liquid resin, plastic, cement, sealant, or binder* (Abstract), wherein

(i) *the porous particulate material has inherent or induced permeability* (Abstract; column 2, line 55 through column 3, line 2);

(ii) *is selected from the group consisting of porous ceramics, polyolefins, styrene-divinylbenzene copolymers, and polyalkylacrylate esters* (Abstract; column 2, line 55 through column 3, line 2); and

(iv) *the porous particulate material is not a cluster of particulates* (Abstract; column 2, line 55 through column 3, line 2).

They fail to explicitly disclose all of the instantly claimed property limitations, including (iii) *the apparent specific gravity of the selectively configured porous particulate is less than the apparent specific gravity of the porous particulate*. However all chemical/material limitations have been satisfied. In light of this, it has been found that, “Products of identical chemical composition can not have mutually exclusive properties.” A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present – *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Furthermore, using *specific gravity* as an

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indicator, it appears that the instantly claimed *apparent specific gravity* would have been satisfied (column 8, lines 2-15).

Therefore, it appears that Gibb et al. would have inherently taught all of the instantly claimed properties.

Regarding claims 130, 131, 135, 114, 115, 160, 170, and 186, Gibb et al. satisfy all of the material/chemical limitations of the instantly claimed *selectively configured porous particulate material comprising a porous particulate material coated or penetrated with a liquid resin, plastic, cement, sealant, or binder* (Abstract), wherein

(i) *the porous particulate material has inherent or induced permeability* (Abstract; column 2, line 55 through column 3, line 2);

(ii) *is selected from the group consisting of porous ceramics, polyolefins, styrene-divinylbenzene copolymers, and polyalkylacrylate esters* (Abstract; column 2, line 55 through column 3, line 2); and

(iv) *the porous particulate material is not a cluster of particulates* (Abstract; column 2, line 55 through column 3, line 2).

They fail to explicitly disclose all of the instantly claimed property limitations, including (iii) the “strength” of the selectively configured porous particulate material is greater than the “strength” of the porous particulate. However all chemical/material limitations have been satisfied. In light of this, it has been found that, “Products of identical chemical composition can not have mutually exclusive properties.” A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present – In re Spada, 911 F.2d 705, 709, 15

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USPQ2d 1655, 1658 (Fed. Cir. 1990). Furthermore, using crush resistance as an indicator, it appears that the instantly claimed strength would have been satisfied (column 8, lines 2-15).

Therefore, it appears that Gibb et al. would have inherently taught all of the instantly claimed properties.

12. Claims 137-139, 145, 181-185, and 190 rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Laird et al. (US Pat. No. 4,632,876)

Regarding claims 137-139, 145, 181-184, 185, and 190, Laird et al. disclose ceramic spheroids featuring: (a) a ceramic core having closed cell micro-porosity; and (b) a fired ceramic glazing shell featuring MgO (*see Abstract; column 1, line 30 through column 2, line 37*). These spheroids have a combination of high strength and low density, making them suitable for use as proppants (*see Abstract; column 2, lines 31-37*). These materials appear to satisfy all of the material/chemical and property limitations of the instantly claimed **product-by-process** claims.

It has been found that, “[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process,” – *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (*see MPEP 2113*).

In the instant case, the *treated, modified or coated* porous particulate material of the instant product-by-process claims would have been the same as or an obvious variation of the spheroids disclosed by Laird et al. Regardless of the process implemented, the spheroids of

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Laird et al. would have featured the same ceramic core and glazing shell as the instantly claimed materials.

Claim Rejections - 35 USC § 103

13. The rejection of claims 161-168 under 35 U.S.C. 103(a) as being unpatentable over Rickards et al. (US Pat. No. 6,059,034) stands for the reasons of record.

Regarding claims 161-168, the teachings of Rickards et al. are as set forth previous Office action an incorporated herein. They fail to disclose the claimed coating thickness of about 1 to about 5 microns. Rather, they disclose, “A deformable layer or coating around a substantially non-deformable particle core may be *any thickness suitable* for allowing deformation of the layer upon contact with fracture proppant materials under closure stress. However, typically thickness of such layers are limited such that deformation under anticipated formation closure stress does not result in damage to conductivity due to excessive deformation and impingement into fracture proppant pack pore spaces. In this regard, a layers of deformable material typically is thick enough to provide a coating sufficient for reducing proppant flowback and/or fines generation by allowing adjacent relatively hard fracture proppant material to embed in the layers of deformable material without substantially reducing porosity or conductivity of the proppant pack,” (*see column 18, lines 21-35*).

In light of this, it has been found that, “[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation,” – *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955); and “A particular parameter must first be recognized as a result-effective variable, i.e., a variable

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which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation,” –*In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide a coating thickness of about 1 to about 5 microns in Rickards et al. because they demonstrate that this thickness is a result effective variable, wherein any suitable thickness can be used.

14. Claims 161-168 are rejected under 35 U.S.C. 103(a) as being unpatentable over {Gibb et al. (US Pat. No. 4,923,714) or Gibb et al. (US Pat. No. 4,869,960)}.

Regarding claims 161-168, the teachings of Gibb et al. are as set forth above and incorporated herein. Gibb et al. fail to explicitly disclose a coating layer thickness of from about 1 to about 5 microns.

Rather, they disclose a coating thickness ranging from 5-150 microns (*see column 2, lines 56-68; column 2, lines 54-68*). In light of this, it has been found that in the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a *prima facie* case of obviousness exists.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide a coating thickness of from about 1 to about 5 microns on the particles of Gibb et al. because Gibb et al. disclose an overlapping coating thickness range of 5-150 microns.

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15. Claims 123-129, 136, 150-154, 175-179, and 187-189 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brannon et al. (US Pat. No. 6,364,018) in view of {Gibb et al. (US Pat. No. 4,923,714) or Gibb et al. (US Pat. No. 4,869,960) or Laird et al. (US Pat. No. 4,632,876)}.

Regarding claims 123-129, 136, 150-154, 175-179, and 187-189, Brannon et al. disclose the type of well-treating carrier-fluid-based composition set forth in the instant invention (*see column 1, line 39 through column 3, line 15*). This composition features a relatively lightweight proppant; however, they do not disclose the selectively configured porous particles of the instant invention.

The teachings of Gibb et al. and Laird et al. are as set forth above and incorporated herein. They disclose relatively low-density (*lightweight*) particles that are useful as proppants in well-treating compositions (*see: '714: column 1, lines 9-13; '960: column 1, lines 6-10; '876: column 2, lines 30-37*). In light of this, it has been found that the selection of a known material based on its suitability for its intended use supports a *prima facie* obviousness determination – *see MPEP 2144.07*.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the instantly claimed selectively configured porous particles, as taught by Gibb et al. and Laird et al., in the well-treating composition of Brannon et al. because: (a) the composition of Brannon et al. features a relatively lightweight proppant; (b) Gibb et al. and Laird et al. disclose relatively low-density (*lightweight*) particles that are useful as proppants in well-treating compositions; and (c) it has been found that the selection of a known material based on its suitability for its intended use supports a *prima facie* obviousness determination.

Double Patenting

16. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

17. The rejection of claims 161-168 on the grounds of nonstatutory obviousness-type double patenting as being unpatentable over claims 95-97 of U.S. Patent No. 6,059,034, in light of the specification, *stands*.

Although the conflicting claims are not identical, they are not patentably distinct from each other because: the patented claims with components, as defined in the specification (column 16, line 19 through column 21, line 63; *particularly column 17, line 50 through column 18, line 35 and column 20, lines 30-56*; Figures 27-30, *particularly Figure 30*), would have inherently or obviously satisfied the instant invention – See: *In re Vogel*, 422 F.2d 438, 441-42, 164 USPQ 619, 622 (CCPA 1970); MPEP 804, II, B, 1.

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Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Feely whose telephone number is (571)272-1086. The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Y. Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael J Feely/
Primary Examiner, Art Unit 1796

September 29, 2009